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ABSTRACT

The adult literacy community is undergoing a period of rapid change due to the expanding role of information and communication technologies (ICT). Developments in instructional and educational design and enhanced technical capabilities have impacted on the range of online learning being offered. The online learning environment has evolved into a place where ideas and information can be exchanged, modified, and challenged. These four major features of online learning that inform the different approaches to online learning across courses in academic settings, but that are equally relevant in adult literacy education, have been identified: dialogue, involvement, support, and control. In each feature, the role of the teacher is being redefined and the dynamics of the learning environment are being reframed. In recent discussions about evolving online pedagogy, there has been a move away from didactic, teacher-centered learning toward "constructivist," learner-directed learning. Students' increased ICT confidence leads to changing identities and roles in family and society. Teachers must develop ICT skills and move through levels of skill development with an understanding of their links and progress. The challenge is to keep access and equity in ICT at the forefront for adult literacy students and practitioners across community and institutional education settings. (15 references) (YLB)

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Online Learning

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Online Learning

Introduction

The adult literacy community is undergoing a period of rapid change with the expanding role of information and communication technologies (ICT). New computer literacy skills are required by teachers and students to engage with technology and a range of modes of online delivery. Teachers integrating online learning activities into their practice recognise ICT as another tool for delivering content. But at the same time, they are finding that their relationships with their students are changing and their methodology is being challenged and extended. Students are developing confidence to interact beyond the classroom in different groupings from traditional settings. They are being encouraged to learn from each other and to seek out expert advice from a global pool of knowledge and information.

The high levels of support, both technical and personal, needed in the initial stages by students and teachers presents an issue for resourcing. Budgets are being stretched to accommodate the high costs of technology, both in hardware and technical support. The provision of professional development has become an issue in that appropriate training is not always available and teachers are finding increasing demands on their time to prepare for training and subsequent teaching. Innovative web-based course development is costly and in the community sector, competing for limited funds. Notions of economies being achieved through online delivery are being challenged by recognition of the principle of learning as a 'socially situated' practice, thereby requiring higher levels of online support for effective learning.

So, what does all this mean for the average teacher in adult literacy and basic education?

This information sheet will attempt to raise some of the issues and put into context some of the concepts of online learning and implications for the future.

What is online learning?

Definitions of online learning may vary depending on the context of education or training. Early examples of online learning in the tertiary sector followed a traditional model of lecture materials being replicated online so that what was print based was converted to online. It was assumed that the student would learn in the same way as in a traditional setting, note-taking and responding to set questions. The student was expected to submit the required assignment tasks with limited email contact with the lecturer.

Early online courses worked much the same way as distance education using a large component of written course work to support the online materials, with a tutor at the other end of the mail to correct and return completed course work. There was little or no interaction between students and minimal contact with the tutor. Online learning tended to be an isolating experience with limited support available so that motivation, effectiveness and attrition rates were issues.

Developments in instructional and educational design and enhanced technical capabilities have impacted on the range of online learning now being offered. A much greater emphasis is now placed on the interactivity of online materials and the potential opportunities for discussion and informal learning taking place between students. The online tutor is required to be more available and skilled in providing feedback and support. The concept of online learning as a socially situated practice is reinforced by the use of email, bulletin boards and chat rooms for the exchange of ideas and information. The online learning environment has evolved into a place where ideas and information can be exchanged, modified and challenged.

Online Terminology

The internet is described as the 'information superhighway' and more recently 'cyberspace'. While the language of ICT continues to evolve these are some of the terms in common use.

ICT (Information and communication technologies) – commonly used acronym that conveys the idea of information and communication being accessed and used by way of computers and the internet, also implying interactivity using sound and vision accessories.

"e-learning" – generic term for describing electronic modes of learning.

Synchronous dialogue in 'real time' environments has various conventions and protocols that may create virtual worlds or simply provide a 'room' to communicate with friends or colleagues.

Asynchronous dialogue or Bulletin boards are a form of conferencing where postings can be made at any time and remain for others to read later and add to, to extend the discussion, or add a new topic.

Flexible delivery provides the learner with options by which course materials can be accessed and delivered. Inherent is the concept that there may be combinations of face to face, classroom based and online delivery across different sites, that will give learners greater flexibility and learning opportunities.

Features of online learning

In adult literacy contexts, online delivery is comparatively new and teachers have responded to the needs of their students in a range of community, private provider and institutional settings. Combinations of online and face to face delivery, involving a range of uses of ICT are more common

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Table 1 – Features of Online Learning

Feature	Form	Implications for teaching and learning
Dialogue	Synchronous chat, discussion, role-play or debate, or asynchronous bulletin boards and email.	Engaging and maintaining students in these forms of dialogue requires skills on the part of the teacher in establishing structure, content, mediation, etiquette and tone.
Involvement	Responses to structured tasks, level of engagement, focus and motivation to engage in student collaborations.	Interactivity of content and the role of the teacher is vital to maintain involvement and respond to student needs and foster the dynamics of the group of learners.
Support	Personal support and feedback needed both from the tutor and other students, as well as technical expertise,	Regular and ongoing feedback and responses plus the provision of technical support largely reliant on funding, time, availability of expertise on site or online, and on the development of 'trouble-shooting' skills.
Control	The degree to which learners have control over learning activities and the extent to which they are encouraged to exert that control.	Providing a range of self-paced activities, choices of content, setting learning goals and outcomes, non-linear sequencing of tasks, tutor, peer or self-assessment.

than courses delivered completely online. The importance placed on social interactions and high need for support and responsiveness to student needs are key factors in determining the extent of technology use, especially at the lower literacy levels. Entry points of computer skills, student responsiveness and the level of support required are key issues in determining the success of online learning.

Coomey and Stephenson (2001) have identified from their research, four major features of online learning that inform the different approaches to online learning across courses in academic settings, but that are equally relevant in adult literacy education. Each feature provides stimulus for different ways of thinking about pedagogy and critically analysing existing methodologies.

In each of these features in Table 1. the role of the teacher is being re-defined and the dynamics of the learning environment reframed. Central to literacy teaching is the fundamental efficacy of social interaction and developing a sense of community in the classroom which are evident in these features of online learning. In planning curriculum it is important to evaluate each situation to determine whether integrating ICT actually enhances or is necessary to achieve educational goals.

Online pedagogy

In discussions about evolving online pedagogy, it is evident that in recent times there has been a move away from didactic, teacher centred learning towards 'constructivist', learner directed learning. The impact of ICT can be seen in the different ways in which online delivery and adult learning principles have become intrinsically linked, notwithstanding the question of whether technology is driving pedagogy.

Terry Mayes(2001) describes a *"constructivist view in which learning is primarily developed through activity"* (Papert, 1990) as being the theoretical underpinning in discussions about developments in online learning. He also refers to the shift away from *" a focus on the individual, towards a new emphasis on social contexts for learning"* (Glaser,1990) as being an agreed concept for online learning communities. He takes up this point further by considering pedagogy as not only affecting the construction of knowledge and ideas, but also the formation of students' identities. The student's sense of self and confidence in an online learning environment can have wider implications for their everyday lives, in how they regard and interact with technology.

A 'constructivist' learning environment as defined by Wilson (1996) is *" a place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuit of learning goals and problem- solving activities"*. This sits well with the concept of learning communities and collaborative learning models.

Underpinning thinking about online pedagogy is situating learning tasks in authentic contexts and involving students in problem solving activities that encourage development of meta-cognitive skills. An online course, for students with low level literacy and mild disabilities, Life Online (http://www.swtafe.vic.edu.au/trends/lifeonline), illustrates this and provides opportunities for extension activities, both for group and individual planning and problem-solving.

A literacy class critically evaluated online course materials using criteria of structural design such as: How does the website look? How easy is it to move around? Are the navigation tools clear and consistent? Research has shown that people tend to read around 25% less on screen than on paper so that the way in which text is 'chunked' is vital for readability. Students examined the text components and analysed the complexity of instructions to decide on 'user friendliness' as well as personal preferences. Considering the educational design elements took into account possibilities for individual or group interaction, such as the level of support available and the potential for pathways. Teachers could develop through a 'hands on' approach, in collaboration with other teachers this critical awareness to further evaluate and integrate online course materials into existing courses.

Online Students

For students, some first encounters with ICT can be fraught with anxiety and lead to increased lack of confidence. However, this experience of 'techno-phobia' seems to have generally declined as more and more people are exposed to ICT and see it as part of everyday life and an essential skill for the workplace and family life. Many students see their children adept with ICT and feel that they want to become

computer literate themselves to keep up with them, much as they do with literacy.

A student's concept of learning and teaching will impact on the effectiveness of online delivery as much as the degree of skill with which the teacher orchestrates online learning experiences. It is perhaps important to recognise that online learning will not suit all learning styles and that a combination of approaches is more likely to succeed.

Recent Canadian research by Kunz & Spyridoula (2000) showed that literacy students viewed ICT learning principally as fun, but that they felt they had improved their ability to learn independently, as well as their employment prospects. With increased ICT confidence leading to changing identities and roles in family and society, students may come to recognise more of their learning potential. There may be crossovers into other aspects of life such as to communicate with family, using email, using the internet to search for recipes, holidays, family history information.

Students may take on new identities in an online class that enables them to express themselves in different ways and feel a sense of belonging to a community of learners that they may not feel in a traditional classroom. Incidental or informal learning may flow into other areas of skills that are not easily measurable but anecdotal evidence suggests that students are able to recognise and value these 'flow on' skills.

ICT professional development

Some teachers may have philosophical conflicts over the place of technology in adult literacy teaching and question whether it actually enhances learning. The very commercial nature of many internet sites and the basis of knowledge presented, both as formal or informal, requires an informed and critical awareness of teachers. Resistance to incorporating ICT into their practice and 'techno-phobia' on the part of teachers is understandable, but nonetheless, to borrow a metaphor from Chandler (1995) in which he refers to *"technological determinism" as "a concept that likens technology to a 'steamroller' and suggests that if one is not driving the steamroller one is part of the 'pavement' so to speak."* (Herod 2001)

Coupled with the high costs of web course development and hardware costs, limited training funds are quickly absorbed and not always by appropriate or relevant online training. If teachers are feeling driven by the technology it can tend to undermine their sense of ownership of the process of teaching. Added to this is the increased burden on mostly casual teachers to bring their own skills up to speed to keep pace with the demands of different workplaces. Unpaid preparation time is also an issue as many will agree that online preparation time is often more than double.

There is pressure for teachers to improve their ICT skills and issues of learning styles and training effectiveness are pertinent to professional development for teachers, as much as for their students. Like it or not, teachers need to develop their ICT skills and move through levels of skill development with an understanding of their links and progress. Wilson & Javed (1998) described three levels in a continuum of internet skills development, *"Starter, User and Developer,"* that they believe teachers need to move through fairly rapidly, augmented by assisted access, support and funded time. Good (2001) refers to 'Technical fearlessness' and four levels of skill towards attaining this. Expanding from both these continuum, four levels of skills in ICT may be illustrated by Table 2: Pathways for Teacher Skills Development that attempts to illustrate pathways for teachers, but as with all aspects of online learning, it is not necessarily a linear progression. Teachers would hopefully aspire to have Level 2 as a minimum and Level 3 as preferable.

Often skills are developed 'just in time' or else incidentally. Learning through 'risk-taking' and 'making mistakes' is particularly relevant for teachers, as much as for their students. Recognising the 'breakthroughs' of understanding how something actually works and being able to explain it to others is also significant in online learning. Small networks of teachers learning with a skilled mentor has been shown to be effective and there is value in short bursts of intensive

Table 2 – Pathways for Teacher Skills Development

Level of skill	ICT applications: use of and knowledge of software and ICT tools	ICT hardware: ability to solve technical problems	ICT uses: integration into curriculum materials and instruction
1. Starting out	Basic word processing Some use of the internet	"Technophobic" Reliant on others when things go wrong	Produce class handouts Search the web for information
2. On the way	Basic internet, email, power point, advanced word processing including clipart and formatting	Able to solve simple technical problems with some support	Basic instruction in use of applications and ICT tools. Set up free email accounts with students Use advanced word processing or publishing applications
3. Down the road	Basic web pages, digital camera, databases, Advanced internet use and regular email, bulletin board, chat use and facilitation	Able to solve own problems and those of others and understand more advanced technical concepts	Create simple web pages with class. Use internet as part of class work. Instruct students in use of more advanced word processing or publishing applications. Participate in chat and bulletin boards Mentor other teachers
4. Out there!	Instructional and educational Web design including multi-media elements	Able to give technical and systems advice	Develop interactive online learning materials, Manage online assessment and enrolment, Facilitate discussion board, chat Provide training

'hands on' training for teachers to then go away and 'play' before implementing with their students. A cycle of reflective practice is particularly relevant with teachers constantly being reminded of the learning process for themselves. ICT access for teachers in the workplace or at home and finding time to pursue ICT skills are critical industrial issues.

Online Learning - what are the challenges?

Integrating online delivery with traditional classroom methods requires new ways of thinking about learning and pedagogy. In his article "On the Way to online pedagogy", Martin Good (2000) provides a description of what the e-learning pedagogue needs:

- Conventional pedagogy - knowledge of how different people learn, what works in teaching them and why;
- Online awareness - how different people learn online, what works in teaching them and why;
- The ability to plan and manage online events and places;
- The ability to explore and extend the potential of technology and solve technical problems without support;
- The ability to interweave technology into the design - learning with, rather than from technology.

He further describes the e-learning pedagogue as being "*a hybrid creature with multiple skills and a passion for learning!*" We can aspire to become this multi-talented creature with the appropriate training and support to ensure that we become the 'road warriors of the information superhighway' and not the detritus in the middle of the road!

Online learning is a contested term in that there are many assumptions made about the role and effectiveness of ICT in adult literacy learning. As a result of advances in technologies as well as, educational and instructional design, innovative online course materials are becoming more available. However, there has not been significant research conducted to establish the effectiveness of online learning so that one is left with the conclusion that student outcomes are much the same as in traditional classroom settings. Whether it is ICT enhanced, or simply good teaching practice that improves learner outcomes has yet to be proven conclusively. Jackson and Anagnostopoulou (2001) note that

"improvements in learning through online approaches, when observed, are generally the product of reflective teachers who have conceptions that encourage them to develop effective teaching interventions regardless of technology rather than features of the particular online pedagogy such as discussion groups or interactive exercises or hyperlinked resources."

It is imperative that in considering online learning teachers do not necessarily view practice as replicating old ways of teaching but view the challenge of creating different classroom practices integrating online elements. Further, it is clear that strategic planning in budgeting for ICT and providing appropriate training and technical support are critical factors. The challenge, is to keep access and equity in ICT at the forefront for adult literacy students and practitioners across community and institutional education settings.

How to access ARIS resources

ARIS, Language Australia houses a specialist collection of resources and journal articles on adult literacy, language and numeracy. All resources and readings listed in this sheet are held in the ARIS collection.

You can access the resources by visiting ARIS, Language Australia at:

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Email: aris@la.ames.vic.edu.au

Internet: http://www.languageaustralia.com.au

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